TULAREMIA

Clinical Features: Most cases characterized by acute onset of fever, chills, myalgia, and headache appearing with various clinical syndromes dependent on the route of infection. Syndromes include an ulcer at the site of inoculation with regional lymphadenopathy (ulceroglandular); regional lymphadenopathy with no ulcer (glandular); conjunctivitis with preauricular lymphadenopathy (oculoglandular); stomatitis or pharyngitis or tonsillitis with cervical lymphadenopathy (oropharyngeal); intestinal pain, vomiting and diarrhea (intestinal); febrile illness without localizing signs and symptoms (typhoidal); and primary pleuropulmonary disease (pneumonic). Cases with pneumonia can develop chest pain, difficulty breathing, bloody sputum, and respiratory failure.

Causative Agent: *Francisella tularensis,* a gram-negative bacterium.

Mode of Transmission: Found in numerous wild animals, especially rabbits, hares, voles, muskrats, beavers, some domestic animals, and various hard ticks, the organism is transmitted through the bite of arthropods; by inoculation of skin, conjunctiva or oropharyngeal mucosa with contaminated water, blood or tissue from infected animal carcasses; by handling or ingesting insufficiently cooked meat of infected animals; by drinking contaminated water; by inhalation of contaminated dust or aerosols; rarely, from bites of carnivores whose mouth presumably was contaminated from eating an infected animal; and from contaminated pelts and paws of animals.

Incubation Period: The incubation period ranges from 1-14 days (usually 3-5 days).

Period of Communicability: Not transmitted person-to-person. Draining lesions are potentially infectious.

Public Health Significance: In the U.S., risk of exposure is greater for those who spend a great deal of time outdoors; incidence is higher during hunting seasons and when ticks and deer flies are abundant. Illness may be prevented through education on the following risk factors: exposure to arthropod bites, exposure to potentially contaminated water, handling sick or dead wildlife, handling wild game carcasses, and ingestion of undercooked wild game. Tularemia is a potential bioterrorism agent, particularly if distributed as an aerosol.

Reportable Disease in Kansas Since: 1990

Laboratory Criteria for Surveillance Purposes

- Confirmed infection:
  - Isolation of *F. tularensis* from a clinical specimen, ***OR***
  - Fourfold or greater change in serum antibody titer to *F. tularensis* antigen.

- Presumptive infection:
  - Elevated serum antibody titer(s) to *F. tularensis* antigen (without documented fourfold or greater change) in a patient with no history of tularemia vaccination, ***OR***
  - Detection of *F. tularensis* in a clinical specimen by fluorescent assay.

Surveillance Case Definitions

- *Confirmed:* A clinically compatible illness that is laboratory confirmed.

Epidemiology and Trends

2005 Kansas Count: 5

	Rate per 100,000	*95% CI*
Kansas Rate	0.2	(0.0 - 0.3)
U.S. Rate (2004)	≤0.1	*NA*

Five confirmed cases of tularemia were reported in Kansas during 2005. The three-year median for 2002-2004 was three cases; zero to 12 cases have been confirmed annually since 1993.

Illness information was available for three of the cases—two reported ulceroglandular tularemia, and one reported glandular tularemia. Three of the five cases reported a tularemia risk factor. Two cases reported contact with rabbits, while one case reported a tick bite.